

CLAIM AMENDMENTS:

1. (original) A plastic sheet (1) having a number of recessed and protruded parts produced by thermal processing to form a number of uneven parts consisting of a protruding, truncated cone-shaped part (12) and a recessed, ring-shaped part (13) surrounded and continuing from the protruding part on a plane (11) of a plastic sheet.

2. (currently amended) The plastic sheet (1) according to claim 1, wherein ~~the~~ a height (H) of the protruding, truncated cone-shaped part (12) from ~~the~~ a bottom of the cone is larger than ~~the~~ a depth (D) of the recessed ring-shaped part (13).

3. (currently amended) The plastic sheet (1) according to claim 1, wherein ~~the~~ a height (H) of the protruding, truncated cone-shaped part (12) from ~~the~~ a bottom of the cone is substantially the same as ~~the~~ a depth (D) of the recessed, ring-shaped part (13).

4. (currently amended) The plastic sheet (1) according to claim 1, wherein ~~the~~ a height (H) of the protruding, truncated cone-shaped part (12) from ~~the~~ a bottom of the cone is smaller than ~~the~~ a depth (D) of the recessed, ring-shaped part (13).

5. (currently amended) A two-layered double wall sheet (2A) produced by adhering a flat liner sheet (5) to ~~the~~ tops of the truncated cones (12) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 2 ~~or claim 3~~.

6. (currently amended) A two-layered double wall sheet (2B) produced by laminating a flat liner sheet (5) to the plane (11) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 2 ~~one of~~ ~~claims 2 to 4~~.

7. (currently amended) A two-layered double wall sheet (2C) produced by adhering a flat liner sheet (5) to ~~the~~ a bottom of the recessed, ring-shaped part (13) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 2 ~~one of claims 2 to 4~~.

8. (currently amended) A three-layered double wall sheet (3) produced by adhering ~~a~~ the flat liner sheet (5) or a flat back sheet (4) to the double wall sheet (2A, 2B or 2C) defined in claim 5 ~~one of claims 5 to 7~~, on the side opposite to the side on which ~~a~~ the back sheet or ~~a~~ the liner sheet is already adhered.

9. (currently amended) A method of producing the plastic sheet
(1) defined in claim 1, comprising the steps of:

feeding a plastic sheet in the molten state extruded from a T-die to a vacuum forming roll, which rotates around ~~the~~ an axis at ~~the~~ a center of the vacuum forming roll and has plural projections and ring-shaped recesses each surrounding the projections and vacuum suction passages therein;

forming plural protruded, truncated cone-shaped parts and recessed, ring-shaped parts surrounding and continuing from the protruding parts to have the parts evenly distributed on ~~a~~ the plane of the plastic sheet, and peeling the formed plastic sheet from the vacuum forming roll.

10. (currently amended) A method of producing the two-layered double wall sheet (2A, 2B or 2C) defined in claim 5 ~~one of claims 5 to 7~~, comprising the steps of: ~~[[,]] further to the steps defined in claim 9,~~

feeding a first plastic sheet in the molten state extruded from a T-die to a vacuum forming roll, which rotates around an axis at a center of the vacuum forming roll and has plural projections and ring-shaped recesses each surrounding the projections and vacuum suction passages therein;

forming plural protruded, truncated cone-shaped parts and recessed, ring-shaped parts surrounding and continuing from the protruding parts to have the parts evenly distributed on the plane of the first plastic sheet;

peeling the formed first plastic sheet from the vacuum forming roll; and
feeding ~~another flat~~ a second plastic sheet in the molten state extruded from another T-die to the tops of the plural truncated cone-shaped parts or to ~~the~~ a flat surface of the sheet so as to adhere by fusion to give the liner sheet, or to ~~the~~ bottoms of the recessed, ring-shaped parts so as to have the ~~flat~~ the second sheet adhered by fusion to give the back sheet to the first plastic sheet.

11. (currently amended) A method of producing the two-layered double wall sheet (2A, 2B or 2C) defined in claim 5 ~~one of claims 5 to 7~~, comprising the steps of: ~~[[,]] further to the steps defined in claim 9,~~

feeding a first plastic sheet in the molten state extruded from a T-die to a vacuum forming roll, which rotates around an axis at a center of the vacuum forming roll and has plural projections and ring-shaped recesses each surrounding the projections and vacuum suction passages therein;

forming plural protruded, truncated cone-shaped parts and recessed, ring-shaped parts surrounding and continuing from the protruding parts to have the parts evenly distributed on the plane of the first plastic sheet;

peeling the formed first plastic sheet from the vacuum forming roll; and
feeding ~~another~~ a second ~~flat~~ plastic sheet in the molten state extruded from another T-die to ~~the~~ bottoms of the plural recessed, ring-shaped parts of the first plastic sheet peeled from the vacuum forming roll so as to adhere by

fusion to give the back sheet, or to the tops of the plural truncated cone-shaped parts or to ~~the~~ a flat surface of the first plastic sheet so as to have the ~~flat~~ second plastic sheet adhered by fusion to give the liner sheet.

12. (currently amended) A method of producing the three-layered double wall sheet defined in claim 8, comprising the steps of: ~~[[,]] further to the steps defined in claim 9, giving the liner sheet or back sheet to the plastic sheet by the method defined in claim 10, and then, giving the back sheet or the liner sheet to the plastic sheet by the method defined in claim 11~~

feeding a first plastic sheet in the molten state extruded from a first T-die to a vacuum forming roll, which rotates around an axis at a center of the vacuum forming roll and has plural projections and ring-shaped recesses each surrounding the projections and vacuum suction passages therein;

forming plural protruded, truncated cone-shaped parts and recessed, ring-shaped parts surrounding and continuing from the protruding parts to have the parts evenly distributed on the plane of the first plastic sheet,

peeling the formed first plastic sheet from the vacuum forming roll; and

feeding a second plastic sheet in the molten state extruded from a second T-die to the tops of the plural truncated cone-shaped parts or to a flat surface of the first plastic sheet so as to adhere by fusion to give the liner sheet, or to

bottoms of the recessed, ring-shaped parts so as to have the second sheet adhered by fusion to give the back sheet to the first plastic sheet; and

feeding a third plastic sheet in the molten state extruded from a third T-die to the bottoms of the plural recessed, ring-shaped parts of the third plastic sheet peeled from the vacuum forming roll so as to adhere by fusion to give the back sheet, or to the tops of the plural truncated cone-shaped parts or to the flat surface of the first plastic sheet so as to have the third plastic sheet adhered by fusion to give the liner sheet.

13. (original) An apparatus for carrying out the method of producing the plastic sheet having a number of recessed and protruded parts defined in claim 9, comprising: a vacuum forming roll cylinder (6) made of metal, which is supported rotatably around the axis (62) thereof, and inside of which is connected to a vacuum source; forming plugs (7A) having vacuum suction passages and fixed on the surface of the forming roll cylinder so that the tops of the plugs may be higher than the surface of the cylinder; and a vacuum system allowing connection of the plugs to the vacuum source only when the plugs are in a certain rotational position.

14. (original) The forming plug used in the apparatus for producing defined in claim 13, comprising a head (71A), which is a positive projection of

the shape corresponding to the protruded, truncated cone-shaped part, and a base (72A) with threads for fixing the plug to the forming roll cylinder, the plug forming the negative part together with the recessed part provided on the surface of the forming roll cylinder to give the ring-shaped recess, and having vacuum suction grooves around the base.

15. (original) The forming plug used in the apparatus for producing defined in claim 13, comprising a head (71B), which has a negative recess (75) of the shape corresponding to the protruding part and a positive projection (76) of the shape corresponding to the recessed part surrounding the negative recess to give the ring-shaped recess to the flat plastic sheet, and a base (72B) with threads for fixing the plug on the forming roll cylinder (6), plug (7B) having a vacuum suction hole at the bottom of the negative recess and the vacuum suction grooves (77) around the positive projection of the base.

16. (new) A two-layered double wall sheet (2A) produced by adhering a flat liner sheet (5) to the tops of the truncated cones (12) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 3.

17. (new) A two-layered double wall sheet (2B) produced by laminating a flat liner sheet (5) to the plane (11) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 3.

18. (new) A two-layered double wall sheet (2B) produced by laminating a flat liner sheet (5) to the plane (11) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 3.

19. (new) A two-layered double wall sheet (2B) produced by laminating a flat liner sheet (5) to the plane (11) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 4.

20. (new) A two-layered double wall sheet (2C) produced by adhering a flat liner sheet (5) to the bottom of the recessed, ring-shaped part (13) of the plastic sheet (1) having a number of recessed and protruded parts according to claim 3.